

## Integrating Disaster Risk Reduction and Adaptation to Covid-19 in Kenya

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### Abstract

SARS-COV-2 is an emergent novel coronavirus with life threatening consequences. Covid-19 disease has become a global health concern alongside other transboundary phenomena including climate change and other natural disasters. At least 6.4M COVID-19 cases have been confirmed worldwide including Kenya with at least 2000 infections. Many adaptation strategies geared at disaster risk reduction and COVID-19 adaption could duplicate each other. This study presents a review of how the two can effectively be streamlined to reduce the vulnerability of communities to corresponding impacts. Key community based DRR strategies are examined for integration.

**Keywords:** Disaster Risk Reduction, COVID-19, Adaptation

### 1. INTRODUCTION

Disaster Based Risk Reduction is intertwined around the Hyogo Framework for Action (HFA, 2005) and Sendai Framework for Disaster Risk Reduction (SFDRR, 2015) respectively. The former aimed to achieve five goals including prioritizing DRR at national and local levels; Identifying, assessing and monitoring risks associated with disasters with enhanced early warning systems; Utilizations of knowledge, education and innovation in building resilience; reduction of contributory risk factors and accelerating the preparedness to disasters.

The need to focus more on people's health and livelihoods gave birth to Sendai Framework for Disaster Risk Reduction (SFDRR), composed of four areas of priority and seven targets for DRR. The four priority areas are based on understanding DRR and strengthening its governance aspects while getting privy to the need to invest in DRR in the process of boosting preparedness for effective response, rehabilitation and recovery. This would result reduction of losses in lives and livelihoods and improve the quality of life through good health and socio-economic and physic-environmental wellbeing of communities in tandem with diversity in cultures.

The 2019 corona virus disease outbreak has rapidly spread to many countries from China. The virus has been observed to be a single-stranded ribonucleic acid virus that infects human beings and animals (Velavan & Meyer, 2020). Model predictions under varying scenarios of disease control projected Africa as susceptible to increased cases of COVID-19 (Zhao *et al.*, 2020) including Kenya. This included forecasted scales of COVID-19 (Brand *et al.*, 2020) with 1.78-3.46 reproductive number projections with recommendations for social distancing, isolation and other containment measures.

Second wave of increased COVID-19 transmission after lifting restrictive measures has been observed to be highly probable, putting many communities at risk (Brand *et al.*, 2020). In order to reduce risk of the pandemic, there is need to identify the risk factors that include comorbidity including, diabetes, chronic lung disease, cardiovascular disease, hypertension and age (Zhou *et*

*al.*, 2020; Shi *et al.*, 2020). Obesity in patients younger than 60 years has contributed to mortality associated to COVID-19 (Lighter *et al.*; 2020). High levels of cytokine and lactate dehydrogenase; asthma; leukocytosis; hyperglycemia; cardiac injury and high dosage use of corticosteroid have also been observed to increase the risk of morbidity and mortality associated with COVID-19 (Li *et al.*, 2020). Behavior related risk factors to COVID-19 include smoking (Vardavas & Nikitara; 2020). In addition to the risk factors indicated above; Jordan, Adab & Cheng (2020) found out that the male gender was more vulnerable to COVID-19 associated mortality and morbidity.

The general DRR framework and COVID-19 containment measures attest to the fact that risk is part of the daily lives and that there is need for social development and community engagement. In both cases, the underprivileged and poor have lower adaptive capacities and therefore highly vulnerable. Risks instigated by underdevelopment can decelerate all economic gains leading to social injustice and inequality (McGlade *et al.*; 2019). Therefore, Vulnerabilities that prevail for longer periods can lead to disparities in income and inequalities based influenced by ethnicity, gender, social status and economic characteristics of households.

The product of interaction of hazards with corresponding vulnerabilities of communities are the risks that have to be reduced and should be understood and associated exposure managed in order to achieve any meaningful development. COVID-19 pandemic threatens to cancel much desired development in countries across the globe (Sumner, Hoy & Ortiz-Juarez; 2020). Consequently, the development impact of covid-19 will include increased poverty and deceleration of sustainable development goals culminating in serious economic inequalities among communities. Health equity can impact on COVID-19 case fatality rates and therefore, the need for equal treatment opportunities for all (Wang & Tang; 2020).

Considering the targets of SFDRR, COVID-19 adaption strategies can be approached with targeted outcomes that include the following: Reduction of the number affected and mortality due to COVID-19; minimization of COVID-19 instigated economic losses relative to the gross domestic product and enhancing the resilience of health and educational facilities and development of stronger policy, institutional and collaborative framework. Increasing access to early warning systems and DRR/COVID-19 information respectively. Integrated vulnerability assessments can also be carried out as part of a common strategy for DRR and adaptation to COVID-19 pandemic.

Health Emergency and Disaster Risk Management framework (EDRM) is characterized by policies, strategies and legislation on health related risks; planning and coordination; financial and human resource planning; risk communication; health services and infrastructure; community capacities; logistics, knowledge management; monitoring and evaluation (WHO, 2019); with focus on multidisciplinary and multisectoral policies. The policy implements HFA (2015) and depicts the role of health systems as able to reduce hazards, vulnerabilities and exposure while minimizing consequences of hazardous events and pandemics. EDRM militates for change of approach in handling health related emergencies from event based to risk based; reactive to proactive protocols; single hazard to multiple hazard approaches; hazard oriented focus to vulnerability and capacity focus; single agency to whole society approach; individual

responsibility to shared responsibility by all health systems; responsive focus to risk management; planning for communities to planning with communities respectively.

The Corona Virus Pandemic (CVP) in Kenya has been approached in multifaceted way including health capacity assessments (Barasa, Ouma & Okiro; 2020); forecasting (Brand *et al.*, 2020) and with varying attitudes, knowledge and practices (Abuya *et al.*, 2020). This points out the need to enhance and support government efforts for enabling Kenya citizens to live with (adapt to) COVID-19 while sustaining quality of life. The Government of Kenya. A member state of the World Health Organization (WHO) has made attempts to implement the WHO protocols on COVID-19 including but not limited to: Scenario based preparedness, readiness and response actions; action plans to respond to community spread; Case management of COVID-19 in health facilities and communities; Laboratory Testing Strategy and public health and social measures Considerations in the wake of COVID-19 pandemic.

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